

Name _____ Date _____
Algebra 2 Constructed Response #9

Rubric:

1. State in your own words what kind of information is given (1-3 sentences)- 1 point
 2. What is the objective? (What do you have to do to solve the problem?) (1-2 sentences)....- 1 point
 3. Show all calculations and explain all steps to solve the problem (4-7 sentences).
Make tables, drawings, and graphs if necessary- 7 points
 4. Make a conclusion. Write down the answer with short comment(s) (1-2 sentences).....- 1 point
- Total – 10 points

In the early 1990s a salt company decided to sell salt in boxes that were 9cm by 15cm by 15cm.

A. What was the volume of the box of salt? Explain.

B. Eventually, the company went back to selling salt in cylindrical containers that had a radius of 4 cm and a height of 13.5cm. What was the volume of the cylinder of salt? Use 3.14 for π . Explain.

Rubric:

1. State in your own words what kind of information is given (1-3 sentences) - 1 point
 2. What is the objective? (What do you have to do to solve the problem?) (1-2 sentences).... - 1 point
 3. Show all calculations and explain all steps to solve the problem (4-7 sentences).
Make tables, drawings, and graphs if necessary - 7 points
 4. Make a conclusion. Write down the answer with short comment(s) (1-2 sentences)..... - 1 point
- Total - 10 points

In the early 1990s a salt company decided to sell salt in boxes that were 9cm by 15cm by 15cm.

A. What was the volume of the box of salt? Explain.

IN ORDER TO FIND THE VOLUME OF THE BOX,
WE CAN USE THE FORMULA FOR THE VOLUME FOR
THE PRISM, WHICH IS $V = l \cdot w \cdot h$, WHERE
 l -LENGTH IS 9CM, w -WIDTH IS 15CM, AND
HEIGHT IS 15CM. AS A RESULT OF MULTIPLICATION,
WE GET THE VOLUME : $9 \cdot 15 \cdot 15 = 2025 \text{ cm}^3$
AFTER ALL, THE VOLUME OF THE BOX OF SALT

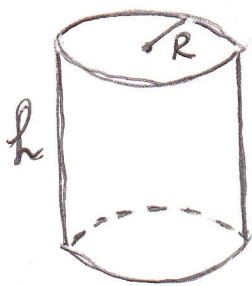
$$V = 2025 \text{ cm}^3$$

B. Eventually, the company went back to selling salt in cylindrical containers that had a radius of 4 cm and a height of 13.5cm. What was the volume of the cylinder of salt? Use 3.14 for π . Explain.

THE PROBLEM IS TO FIND THE VOLUME OF THE
CYLINDER CONTAINING SALT.

THE FACTS ARE : RADIUS IS 4CM, HEIGHT -13.5CM

AS AN ILLUSTRATION, WE WILL MAKE A DRAWING
OF A CYLINDER



THE FORMULA FOR THE VOLUME
OF CYLINDER IS: $V = \pi R^2 h$

R -RADIUS, h -HEIGHT

$$V = 3.14 \cdot 4^2 \cdot 13.5 = 3.14 \cdot 16 \cdot 13.5 = 678.24 \text{ cm}^3 \approx 678.2 \text{ cm}^3$$

ULTIMATELY, THE VOLUME OF THE CYLINDER IS
 $V = 678.2 \text{ cm}^3$